

# **A. 201**

**UNITED STATES BANKRUPTCY COURT  
SOUTHERN DISTRICT OF NEW YORK**

In re:

LEHMAN BROTHERS HOLDINGS INC., *et al.*,  
Debtors.

Chapter 11

Case No. 08-013555

(Jointly Administered)

**Expert Report of  
Mark E. Slattery, CFA**

**March 15, 2010**

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## **I. INTRODUCTION**

1. This report is submitted by Mark E. Slattery. I am an independent consultant with Navigant Economics (Chicago Partners), a subsidiary of Navigant Consulting, Inc., which specializes in applying accounting, economics, and finance to business consulting, legal, and regulatory issues. My qualifications are detailed in Section III and my Curriculum Vitae is included in Appendix I.

2. I have prepared this report at the request of Movants' Counsel. In this report, I set forth subject matter on which I expect to testify, including the substance of the facts and opinions on which I expect to testify, and summarize the foundations for each opinion.<sup>1</sup> As cited within the text and footnotes of this report and/or Appendix II to this report, I have reviewed various documents to prepare this analysis.

## **II. SCOPE OF ANALYSIS PERFORMED**

3. I have been asked by counsel to value certain securities in connection with Barclays' acquisition ("the Acquisition") of certain Lehman Brothers Holdings Inc. ("LBHI") and Lehman Brothers Inc. ("LBI") assets.

4. As an initial matter, in my evaluation of the information available to value the securities Barclays acquired, I observed certain valuation issues highlighted by

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<sup>1</sup> Motion of Official Committee of Unsecured Creditors of Lehman Brothers Holdings Inc., et al., Pursuant to 11 U.S.C. § 105(a), Fed. R. Civ. P. 60(b), and Fed. R. Bankr. P. 9024, for Relief from Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006 Authorizing and Approving (A) Sale of Purchased Assets Free and Clear of Liens and Other Interests and (B) Assumption and Assignment of Executory Contracts and Unexpired Leases, Dated September 20, 2008 (and Related SIPA Sale Order) and Joinder in Debtors' and SIPA Trustee's Motions for an Order Under Rule 60(b) to Modify Sale Order. In re Lehman Brothers Holdings Inc., et al., Debtors Case No. 08-13555 (JMP) (Bankr. S.D. N.Y. Sept. 15, 2009).  
The Trustee's Motion for Relief Pursuant to the Sale Orders or, Alternatively, for Certain Limited Relief Under Rule 60(b), (Bankr. S.D. N.Y. Sept. 15, 2009).  
Debtor's Motion for an Order, Pursuant to Fed. R. Civ. P. 60 and Fed. R. Bankr. P. 9024, Modifying the September 20, 2008 Sale Order and Granting Other Relief (Bankr. S.D. N.Y. Sept. 15, 2009).

substantial divergences between Barclays' acquisition price and that of Barclays' custodial bank, the Bank of New York ("BoNY"). BoNY is a premier custodian in the U.S. marketplace and is subject to extensive regulations and contractual obligations.<sup>2</sup> As such and in light of the substantial divergences, I have identified securities where the absolute value of the difference between Barclays' valuation for any given security and BoNY's valuation exceeded \$1 million. In my experience, a valuation difference this significant should have triggered further investigation. These pricing differences included 632 securities, for which I performed an in-depth analysis and valuation. I present valuations based on third party pricing sources for approximately 6,035<sup>3</sup> securities acquired by Barclays in addition to the 632 security valuations.

5. I calculated the fair value of a total of 6,667 securities acquired by Barclays in the Acquisition. My independently calculated values are based on a robust valuation framework, state of the art models and data libraries customarily used by market participants, including Barclays itself, and are supported by currently available empirical research of the actual market conditions and pricing information that was available to Barclays at the time of its valuations. For the securities that were not part of my independent value calculations, I assigned unbiased prices collected from independent third party market pricing sources.

6. Barclays' estimated values were based on arbitrary and indefensible discounts taken by Barclays. Indeed, Barclays employed certain valuation techniques in the Acquisition that massively undervalued acquired assets. As a result of this flawed

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<sup>2</sup> See Expert Report of John Schneider.

<sup>3</sup> In the case of 40 securities, where Barclays failed to provide information related to the particular security, and where I was able to obtain third party pricing information but unable to obtain information other than third party pricing, I performed valuations based on third party pricing.

process, Barclays significantly undervalued the aforementioned securities by at least \$2.38 billion.<sup>4</sup>

7. Navigant Economics (Chicago Partners) charges an hourly rate of \$500 for my time. Other Navigant Economics (Chicago Partners) professionals, working under my direction and supervision, assisted in my analysis and they will be compensated for their work at their customary hourly rates. Our compensation is not contingent in any way on the outcome of this matter.

8. The remainder of the report is organized as follows: Section III summarizes my qualifications and the qualifications of my team; Section IV summarizes my opinion; Section V details my opinion and provides the bases thereof.

### **III. SUMMARY OF QUALIFICATIONS**

9. My present position is Independent Consultant at Navigant Economics (Chicago Partners), a subsidiary of Navigant Consulting, Inc. Navigant Economics (Chicago Partners) specializes in consulting in the areas of accounting, economics, and finance. I am a Chartered Financial Analyst and my areas of expertise include residential mortgage investments, financial modeling and risk management.

10. Prior to joining Navigant Economics (Chicago Partners), I was a Senior Vice President in the Asset/Liability Management & Economics Group at LaSalle Bank Corporation (a member of the ABN AMRO Group), specializing in residential mortgage analytics and investment portfolio activities. Before joining LaSalle Bank, I spent 8 years as the Co-Managing Director of the Subject Matter Consultants at Quantitative

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<sup>4</sup> I have reviewed the available data regarding market conditions from the close of business in the United States on Friday, September 19, 2008 to the opening of business in the United States on Monday, September 22, 2008 and have concluded that my valuations that are based on closing prices on September 19, 2008 would not change materially if rolled forward to September 22, 2008.



Risk Management, specializing in consulting on the modeling and valuation of a wide array of fixed income securities and related hedge vehicles. Previous to joining QRM, I worked as a Thrift Regulator and Senior Financial Analyst for the Federal Home Loan Bank of Chicago, specializing in the oversight of capital markets activities of member institutions.

11. The team that has supported me includes fixed income and mortgage securities valuation professionals with extensive experience at major financial institutions. My team has significant experience in trading fixed income securities and valuing them for financial reporting purposes. I have worked with these team members previously to analyze and value other similar products.

#### **IV. SUMMARY OF OPINION**

12. In this section of my report, I summarize my opinion. In the remaining sections of the report, I provide the substance of the facts and opinion of which I expect to testify, and the bases for this opinion. I reserve the right to supplement my analysis in response to any newly produced evidence or in rebuttal to any further opinions offered by Barclays' witnesses. I also reserve the right to do a more comprehensive CUSIP-by-CUSIP valuation, if necessary, of those securities I did not independently value for purposes of my report.

#### **Opinion 1: Barclays undervalued 6,667 securities acquired by Barclays from LBHI and LBI by at least \$2.38 billion.**

13. As detailed in Table 1 below, I have replicated the results from Professor Pflleiderer's Table 1 analysis<sup>5</sup> by comparing my own valuation results with Barclays' valuation results.

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<sup>5</sup> Expert Report of Professor Pflleiderer, ¶53.

| Table 1: Summary of Valuation Differences for All Valuations<br>(amounts in millions of dollars) |                     |   |   |   |
|--|---------------------|---|---|---|
| Replication of Professor Pfleiderer<br>Table 1 Report Category                                   | Number of<br>CUSIPs | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| Residential Mortgage Backed Securities   | 3,834               | \$12,620  | \$13,561                                  | \$941   |
| Corporate Bonds  | 501                 | \$1,119   | \$1,111                                   | -\$7  |
| Emerging Markets<br>Equities   | 69                  | \$225   | \$224                                     | \$0   |
| Rates  | 1,154               | \$14,507  | \$14,983                                  | \$476   |
| Principal Mortgage Trading Group   | 1,109               | \$2,064   | \$3,036                                   | \$972   |
| Total  | 6,667               | \$30,534  | \$32,915                                  | \$2,380   |

## V. OPINION AND BASIS THEREOF

14. This section discusses my opinion and the bases of my opinion.

### **Opinion 1: Barclays undervalued 6,667 securities acquired by Barclays from LBHI and LBI by at least \$2.38 billion.**

15. Barclays undervalued U.S. Treasury and Agency debt securities, Agency and non-Agency Residential Mortgage-Backed Securities (“RMBS”), Collateralized Loan Obligations (“CLOs”), Collateralized Debt Obligations (“CDOs”), Commercial Mortgage-Backed Securities (“CMBS”) and other securities acquired from LBHI & LBI by an amount of at least \$2.38 billion. As detailed in Table 1 above, I have replicated the results from Professor Pfleiderer’s Table 1 analysis<sup>6</sup> by comparing my own valuation results with Barclays’ valuation results.

16. In the following section of the report, I describe the valuation results from each of the categories identified in Table 2, below. These descriptions correspond to the order in which the securities are described in Table 2. The total undervaluation described in my Table 2 equals the total undervaluation in Table 1.

<sup>6</sup> Expert Report of Professor Pfleiderer, ¶53.

| Table 2: Summary of Valuation Differences for All Valuations<br>(amounts in millions of dollars) |                     |   |   |   |
|--|---------------------|---|---|---|
| Expert Report Valuation Summary<br>by Individual Asset Class                                     | Number of<br>CUSIPs | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| A. U.S. Treasury and Agency Debt Securities  | 125                 | \$12,778  | \$13,203                                  | \$424   |
| B. Agency RMBS   | 308                 | \$5,821   | \$6,549                                   | \$728   |
| C. Non-Agency RMBS   | 162                 | \$512   | \$898                                     | \$387   |
| D. Collateralized Loan Obligations excl. Pine  | 6                   | \$46  | \$58                                      | \$12  |
| E. Pine CLO  | 1                   | \$429   | \$817                                     | \$389   |
| F. CDOs and CMBS   | 30                  | \$192   | \$213                                     | \$22  |
| G. Third Party Valuations  | 6,035               | \$10,757  | \$11,176                                  | \$419   |
| Total  | 6,667               | \$30,534  | \$32,915                                  | \$2,380   |

**A. BARCLAYS UNDERVALUED 125 U.S. TREASURY AND AGENCY DEBT SECURITIES BY \$424 MILLION.**

17. I independently valued 125 distinct U.S. Treasury and Agency securities. I valued those securities at \$13,202,512,065, as of September 19, 2008. Barclays' values were very similar to those that I calculated before Barclays' liquidity discounts were applied that were, based upon my research and analysis, unjustified and excessive for those securities at that point in time. Table 3 below summarizes the difference between my valuations and those of Barclays.

| Table 3: Summary of Valuation Differences for<br>US Treasury and Agency Debt Securities<br>(amounts in millions of dollars) |   |   |  |
|---|---|---|--|
| Number of CUSIPs  | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays' Undervaluation) |
| 125   | \$12,778  | \$13,203                                  | \$424  |

18. Several reasons for Barclays' undervaluation of these securities are identified below.

- 1) **Barclays took a 5% across-the-board liquidity discount on U.S. Agency debt securities without considering the maturity of each**

**individual instrument; this resulted in implicit and indefensible annualized yields as high as 643.4%.**

19. Barclays' valuation of the security listed as the first security in Table 4 below was a \$50 million discount note that Barclays initially valued at \$99.99 for a note maturing on September 22, 2008. Barclays took a 5% discount from the \$99.99 value to revalue that note at acquisition. The result of this was a discount of the note's value by \$2.5 million. This note would have provided the holder a payment of \$100.00, or its par value, providing a total return of principal to the holder three days after the September 19, 2008 acquisition. Based on a \$99.99 price, this \$100.00 payment reflected an approximate 1.2% yield. In stark contrast, Barclays' adjusted price of \$94.99 implied a "yield" or return of 643.4%. Furthermore, Barclays' valuation is more suspect because this security would have settled at par and payment would actually have been received by Barclays long before Barclays' acquisition balance sheet was prepared.

20. This example highlights the deficiencies in Barclays' valuation methodology. Barclays' approach was indiscriminate, unsupported by market data and excessive in light of prevailing market conditions. Table 4 below exemplifies the deficiencies in Barclays' valuation.

| Table 4: Yield Analysis of Discount Notes |                               |                           |               |            |                  |            |          |       |
|---|-------------------------------|---------------------------|---------------|------------|------------------|------------|----------|-------|
| Settlement Date: 9/19/2008                |                               | Fair Value (\$ millions)  |               |            |                  |            |          | Yield |
| CUSIP                                     | Description                   | Face Amount (\$ millions) | Maturity Date | Barclays   | Chicago Partners | Difference | Barclays |       |
| 1 RTD019828                               | USD Fmcdn 0.0 22 Sep 2008 Rg  | \$ 50.0                   | 09/22/08      | \$ 47.5    | \$ 49.9          | \$ 2.4     | 643.4%   |       |
| 2 RTD019885                               | USD FHLBDN 0.0 26 Sep 2008 Rg | \$ 28.8                   | 09/26/08      | \$ 27.4    | \$ 28.8          | \$ 1.4     | 276.8%   |       |
| 3 313396H89                               | USD Fmcdn 0.0 30 Sep 2008 Rg  | \$ 926.9                  | 09/30/08      | \$ 880.2   | \$ 925.1         | \$ 44.9    | 176.2%   |       |
| 4 RTD019971                               | USD Fmcdn 0.0 01 Oct 2008 Rg  | \$ 50.0                   | 10/01/08      | \$ 47.5    | \$ 49.9          | \$ 2.4     | 162.8%   |       |
| 5 313588K79                               | USD Fndn 0.0 15 Oct 2008 Rg   | \$ 400.0                  | 10/15/08      | \$ 379.5   | \$ 399.0         | \$ 19.4    | 76.0%    |       |
| 6 313384M71                               | USD FHLBDN 0.0 31 Oct 2008 Rg | \$ 100.0                  | 10/31/08      | \$ 94.8    | \$ 99.7          | \$ 4.9     | 48.0%    |       |
| 7 313384P52                               | USD FHLBDN 0.0 14 Nov 2008 Rg | \$ 61.8                   | 11/14/08      | \$ 58.5    | \$ 61.5          | \$ 3.0     | 36.7%    |       |
| 8 313396Q71                               | USD Fmcdn 0.0 24 Nov 2008 Rg  | \$ 250.0                  | 11/24/08      | \$ 236.6   | \$ 248.8         | \$ 12.3    | 31.5%    |       |
| 9 313588R31                               | USD Fndn 0.0 28 Nov 2008 Rg   | \$ 100.0                  | 11/28/08      | \$ 94.6    | \$ 99.5          | \$ 4.9     | 29.9%    |       |
| 10 313384T41                              | USD FHLBDN 0.0 15 Dec 2008 Rg | \$ 44.8                   | 12/15/08      | \$ 42.4    | \$ 44.6          | \$ 2.2     | 24.5%    |       |
| 11 313588T62                              | USD Fndn 0.0 17 Dec 2008 Rg   | \$ 100.0                  | 12/17/08      | \$ 94.5    | \$ 99.4          | \$ 4.9     | 24.0%    |       |
| 12 313396V34                              | USD Fmcdn 0.0 30 Dec 2008 Rg  | \$ 150.0                  | 12/30/08      | \$ 141.6   | \$ 149.0         | \$ 7.4     | 21.3%    |       |
| 13 313396V42                              | USD Fmcdn 0.0 31 Dec 2008 Rg  | \$ 150.0                  | 12/31/08      | \$ 141.6   | \$ 149.0         | \$ 7.4     | 21.1%    |       |
| 14 313588V44                              | USD Fndn 0.0 31 Dec 2008 Rg   | \$ 150.0                  | 12/31/08      | \$ 141.6   | \$ 149.0         | \$ 7.4     | 21.1%    |       |
| 15 313397DS7                              | USD Fmcdn 0.0 30 Mar 2009 Rg  | \$ 150.0                  | 03/30/09      | \$ 140.5   | \$ 147.8         | \$ 7.3     | 12.9%    |       |
| 16 313589GE7                              | USD Fndn 0.0 29 May 2009 Rg   | \$ 150.0                  | 05/29/09      | \$ 139.8   | \$ 147.1         | \$ 7.4     | 10.6%    |       |
| Total/Weighted Average                    |                               | \$ 2,862.2                |               | \$ 2,708.3 | \$ 2,848.2       | \$ 139.9   | 96.6%    |       |

21. I applied discounts on U.S. Agency debt securities based on actual market data for comparable instruments taking into account the maturity of the bond and prevailing bid-offer spreads on a bond-by-bond basis. These discounts ranged from 0.14% to 1.22% of midpoint values, significantly smaller than Barclays' 5.0% discount.

22. Barclays' liquidity discount was particularly excessive given that the U.S. government acted to provide additional liquidity prior to September 22, 2008 to the U.S. Agency securities market. For example, on September 7, 2008, the U.S. Treasury entered into senior preferred stock purchase agreements with Fannie Mae and Freddie Mac, which effectively provided protection to holders of senior debt, subordinated debt, and MBS issued or guaranteed by these entities. As an additional measure to support the financial markets, the Federal Reserve announced on September 19, 2008 that it would begin purchasing short term debt obligations issued by Fannie Mae, Freddie Mac, and

the Federal Home Loan Banks in the secondary market. These facts further undermine the validity of the approach taken by Barclays.

23. Barclays did not differentiate between asset types and their inherent risk characteristics when applying the 5% liquidity discount. For example, Barclays applied a 5% liquidity discount to both covered bonds and U.S. Agency debt. Covered bonds are foreign bank debt instruments secured by mortgage loans. In the U.S. market, covered bonds are much less liquid than U.S. Agency debentures. Nevertheless, Barclays applied the same high 5% discount to U.S. Agency debt securities that it applied to covered bonds.

24. Barclays' universal application of a 5% liquidity discount on all U.S. Agency securities resulted in an excessive \$462.7 million discount in the valuation. For Agency securities, as reflected on Schedules A and B,<sup>7</sup> Barclays listed an aggregate value of \$9.255 billion prior to assigning the liquidity discount and an aggregate value of \$8.792 billion after universally integrating the 5% discount, a reduction of \$462.7 million.<sup>8</sup>

**2) In contrast to Barclays' generic approach, I valued U.S. Treasury and Agency securities using either actual, observable price quotes or by discounting each security-specific structured cash flow by actual, observable comparable market yields.**

25. U.S. Treasury securities are AAA rated and are essentially credit-risk free. U.S. Treasury securities are, in fact, the most liquid instruments in the capital markets universe, and typically trade at prices where the difference between the "bid," meaning the price at which such a security could be purchased and the "offer," meaning the price at which such a security could be sold, i.e., the "bid-offer spread," are as small as 0.00 to

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<sup>7</sup> BCI-EX-00099159 (Dep. Ex. 86B); BCI-EX-(S)-00213995 (Dep. Ex. 641A).

<sup>8</sup> BCI-EX-00099159 (Dep. Ex. 86B); BCI-EX-(S)-00213995 (Dep. Ex. 641A).

0.03%. Based on my research and analysis of observed actual market data for the “bid-offer spread,” I incorporated a liquidity discount on U.S. Treasury securities ranging from 0.03% to 0.06% of the price.

26. Unlike U.S. Treasury securities, U.S. Agency securities do have some credit risk. For U.S. Agency securities with no available market quotes, I valued them by discounting their associated cash flows while taking into account the credit risk component by applying actual observable market yields from comparable Agency securities.

27. Finally, I calculated fair values for each U.S. Treasury and Agency security by reducing their midpoint values by an applicable and supportable liquidity discount as evidenced by actual market data.

B. BARCLAYS UNDERVALUED 308 AGENCY RMBS BY \$728 MILLION.

28. I independently valued 308 distinct Agency RMBS. I valued those securities at \$6,549,047,039 as of September 19, 2008. These results are summarized below in Table 5.

| Table 5: Summary of Valuation Differences<br>Agency RMBS<br>(amounts in millions of dollars) |   |   |   |
|--|---|---|---|
| Number of<br>CUSIPs  | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 308  | \$5,821   | \$6,549                                   | \$728   |

29. Barclays’ value of \$5,821,257,372 is understated for a number of distinct reasons set forth below.

- 1) **Neither Barclays, nor its expert Professor Pfleiderer, provided any detailed model documentation or analysis to support the values they ascribe to these securities.**

30. Professor Pfleiderer did not, in fact, independently value any of these securities.

Instead, he simply accepted Barclays' methodology for deriving an "exit price" for these securities by taking a flat, across-the-board 10% discount from the value of these securities.<sup>9</sup>

31. Professor Pfleiderer opined that Barclays valued Agency Collateralized Mortgage Obligations ("CMOs"), specifically complex floaters, interest only ("IO")<sup>10</sup> and inverse IO securities, using midpoint marks that were subsequently reduced by a 10% liquidity discount to establish exit price marks. According to Professor Pfleiderer, Barclays' "exit price marks were reasonable and appropriate given the relevant risks and liquidity issues associated with these securities."<sup>11</sup>

32. Barclays used two approaches to estimate the liquidity discount for Agency CMOs. In the first approach, Barclays took price observations from various unnamed sources and noted that the average variance was 10%. The second approach involved reviews of observed buys and sells of 39 Agency CMOs that occurred on the same date. The weighted average difference between these prices was noted as 10.5%.<sup>12</sup> Barclays incorrectly used this data as a proxy for its liquidity discount.

- 2) **Barclays apparently calculated liquidity discounts using differences between purchase and sales prices, which provided no description as to the source, the time of day for which they were provided, or**

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<sup>9</sup> Expert Report of Professor Pfleiderer, Appendix Four, Section Four, P. 110.

<sup>10</sup> An Interest Only mortgage security pays a coupon based only on a notional principal; it receives no principal payments from amortization or prepayments. An Inverse Interest Only mortgage security pays a coupon that moves opposite to its index based only on a notional principal.

<sup>11</sup> Expert Report of Professor Pfleiderer, Appendix Four, Section Four, P. 110.

<sup>12</sup> PwC-BarCapWP\_00023327.



**whether the prices were actual traded prices, bids, offers, or price indications.**

33. Prices were simply given by Barclays to PwC over a given day, as if they represented the simultaneous bid-offer spread, justifying its determination of the liquidity discounts. A review of a listing of combined bid and offer prices, without regard to whether they occur at the same or a different time of day, and with no information as to the source, is not representative of the bid-offer spread. The commonly used definition of a bid-offer spread is the difference between the price at which a dealer is willing to purchase or sell a given security simultaneously at a particular moment in time. Barclays neither provided nor incorporated such an analysis in its valuation.

34. In contrast to Barclays' flawed methodology, I used empirical bid-offer spreads to derive liquidity discounts. I did not use trading ranges for various securities as proxies for bid-offer spreads.

35. Although Professor Pfleiderer did not conduct any independent analysis, he reviewed documentation from PwC and stated that Barclays used an "average" for the liquidity discount and that this "average" was a fair representation of the population of securities.<sup>13</sup> These are not accurate statements.

36. First, the percentage composition of the portfolio Barclays used for deriving the average was not the same as the percentage composition of the Lehman portfolio of securities that is the subject of the valuation. For example, Inverse IO securities comprised 51% of Barclays' benchmark portfolio. However, Inverse IO securities only comprised 13% of the Agency MBS portfolio subject to valuation. This means that the

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<sup>13</sup> PwC-BarCapWP\_00023327.

average liquidity discount used by Barclays is significantly skewed towards one type of security and is not representative of the population subject to valuation.

37. Second, the Inverse IOs had a much higher bid-offer spread, as defined by Barclays, than the other types of securities in Barclays' benchmark portfolio. For example, Barclays claims that the bid-offer spread was approximately 16% for Inverse IOs. The majority of the other types of securities in Barclays' own benchmark portfolio had a bid-offer spread of approximately 0.03%. Therefore, the "average" liquidity discount applied by Barclays was not only skewed on a "frequency" basis, but also a "magnitude" basis.

38. Lastly, Barclays incorrectly assessed a 10% liquidity discount across a broad and diverse set of asset types within the Agency RMBS category. In contrast, I applied liquidity discounts by product type and did not use an average to generalize across all the various types of tranches of a CMO deal. I did so because each tranche has a different level of liquidity in the marketplace as the liquidity of a particular type of CMO tranche is directly related to its complexity, hedging difficulty, and term-to-maturity.

39. Barclays made other fundamental errors in its valuation of the Agency RMBS. According to Barclays' accountants, certain RMBS were valued by Barclays using a discounted cash flow approach incorporating the BlackRock prepayment model and an estimate of required market yields. Based on my understanding of this analytical configuration, Barclays used a valuation methodology that did not take into account the variability of outcomes given different market conditions. This means that Barclays assumed a single set of cash flows and assigned a single discount rate to value each security. As a result, the variability of potential outcomes, e.g., differences in mortgage

prepayment rates by borrowers leading to variable valuation outcomes, was not accurately factored into Barclays' valuation.<sup>14</sup>

- 3) **In contrast to Barclays' modeling approach, I valued these securities using a pricing framework that accounted for the variability of potential outcomes by incorporating prepayments under multiple interest rate scenarios to capture the value associated with embedded options.**

40. Further discussion regarding dynamic pricing of Agency RMBS and each of the related model components is provided in Appendix III of this report.

41. For a subset of the Agency RMBS that I valued, specifically 24 CUSIPs, I obtained actual price quotes from multiple broker/dealers.

42. For the remaining Agency RMBS that I valued, I used an industry standard and widely recognized valuation technique to establish "mid" prices, i.e., prices midway between prevailing bids and offers.<sup>15</sup> I applied liquidity discounts to midpoint prices to reflect varying levels of liquidity for different mortgage product types in order to derive market values. The liquidity discounts I used are based on empirical research and market intelligence related to bid-offer spreads for various mortgage product types in both "normal" and "stressed" market environments. I calculated market values for each Agency RMBS by reducing midpoint prices by their liquidity discounts in a "stressed" market environment.

C. **BARCLAYS UNDERVALUED 162 NON-AGENCY RMBS  
BY \$387 MILLION.**

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<sup>14</sup> Although appropriate for non-contingent cash flow instruments, including corporate debt instruments that contain no option-like features (e.g., call/put provisions), the pricing approach used by Barclays is insufficient for purposes of valuing Agency RMBS. Barclays' approach does not accurately capture the value associated with options embedded in the underlying collateral and it led to a substantial undervaluation of this collateral.

<sup>15</sup> This standard methodology is referred to as "breakeven analysis." Barclays Capital, Securitization Research, January 8, 2010; Bank of America RMBS Trading Desk Strategy, October 23, 2006.

43. I independently valued 162 distinct non-Agency RMBS. I valued those securities at \$898,447,679, as of September 19, 2008. The results are summarized below in Table 6.

| Table 6: Summary of Valuation Differences for<br>Non-Agency RMBS<br>(amounts in millions of dollars) |   |   |   |
|--|---|---|---|
| Number of CUSIPs   | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 162  | \$512   | \$898                                     | \$387   |

- 1) **Barclays did not provide detail or support for its valuation of non-Agency RMBS.**
- 2) **The Pfleiderer report accepts Barclays' use of sales prices obtained after September 22, 2008 in valuing non-Agency RMBS despite Professor Pfleiderer's acknowledgement that "as a general matter, one must use ex post outcomes with considerable care."<sup>16</sup>**

44. For analytical purposes, the non-Agency RMBS that I valued were segregated into two categories: stripped non-Agency RMBS, i.e., private label IOs and POs and non-Agency RMBS. The segregation was warranted due to key valuation drivers. For non-Agency IOs and POs, voluntary prepayments represent the key value driver. For the other non-Agency RMBS that I valued, credit-related events, i.e., defaults and losses, represent the key value drivers.

45. The approach I took to value private label RMBS IOs and POs was very similar to the one used to value Agency RMBS. In particular, the valuation framework included a standard state of the art term structure model,<sup>17</sup> a current coupon model,<sup>18</sup> a prepayment

<sup>16</sup> Expert Report of Professor Pfleiderer, ¶66.

<sup>17</sup> The Brace Gatarek Musiela model (See Appendix III).

model,<sup>19</sup> and a deal cash flow library.<sup>20</sup> I applied specific liquidity discounts on an individual bond-to-bond basis to midpoint prices to reflect the appropriate level of additional credit and liquidity risk. The amount of the liquidity discount in percentage terms was based on the difference between the price of select non-Agency RMBS and Agency RMBS with similar characteristics as of the valuation date.

46. Material public information exists for an overwhelming majority of these credit sensitive non-Agency RMBS. One such source of this material public information is known as the ‘remittance report.’ A remittance report contains updated information on payments and collateral performance and it is issued in accordance with the pay date of the given security, which is, in the majority of cases, the 25th of each month.<sup>21</sup> The vast majority of the credit sensitive non-Agency RMBS that I valued make monthly payments on or after the 25th of the month. Monthly remittance reports contain substantial information on the status of the deal and, therefore, could easily change the market’s assessment of the performance of the bond. Given the material change in market information after September 25, 2008, Barclays’ use of post-September 25, 2008 prices was inappropriate for valuing the assets’ market values as of September 19, 2008.

47. The use of ex-post pricing is inappropriate as market conditions change over time, as market conditions impact the value of any particular security. In addition, Barclays sold a significant amount of the acquired non-Agency RMBS portfolio during a short

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<sup>18</sup> See Appendix III for details of the current coupon model (See Appendix III).

<sup>19</sup> The Andrew Davidson & Co, model (See Appendix III).

<sup>20</sup> Intex (See Appendix III).

<sup>21</sup> Or the first business day following if the 25th lands on a weekend. The 25th of September 2008 was a Thursday.

time frame. Therefore, the sale prices do not reflect an orderly disposition of these assets, but a “fire sale.”<sup>22</sup>

48. Barclays’ valuation does not represent the “fair value” of the credit sensitive non-Agency RMBS that I valued, and therefore, should be disregarded. It remains unclear how many of these “sales” were transfers within Barclays to internal trading desks and how many were legitimate third party sales. In any event, Barclays’ use of post-transaction prices was inappropriate. All of the sales occurred after the assets had been transferred to Barclays and are irrelevant for purposes of this valuation. In addition, when measured against Barclays own internal marks, the resulting loss on these securities signifies a “fire sale” and/or sales to internal trading desks at deeply discounted prices. Since the “fair value” of any asset should reflect an orderly disposition of the asset, Barclays’ reliance on such “sale prices” to value these securities is clearly inappropriate.<sup>23</sup>

3) **Contrary to Barclays’ ad hoc approach, my approach for valuing credit sensitive non-Agency RMBS was consistent with industry practice.**

49. In my valuation of these securities, I used the Intex deal library to obtain information regarding the structure of the bonds as well as the characteristics and delinquency status of the underlying mortgages as of September 19, 2008. I also used contemporaneous research to develop an appropriate loss curve and industry standard ABX<sup>24</sup> indices to derive an appropriate discount rate. After determining an appropriate

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<sup>22</sup> Expert Report of Professor Pfleiderer, Appendix Four, Section Six, P. 110.

<sup>23</sup> Expert Report of Professor Pfleiderer, Appendix Four, Section Three, P. 109.

<sup>24</sup> As stated on Markit’s website the ABX is “A barometer of the conditions in the subprime mortgage market throughout the financial crisis has been the ABX.HE indices administered by Markit. There are four Markit ABX.HE indices, each a synthetic tradeable index referencing a basket of 20 subprime mortgage-backed securities from a particular vintage by period of issuance. Each ABX.HE index covers a

loss curve, i.e., calculation of default expectation based on detailed analysis of underlying mortgage collateral data,<sup>25</sup> prepayment input and discount rate, I used the Intex modeling platform to value each of these securities. Finally, to be conservative, I applied an additional liquidity discount to derive my final values.

**D. BARCLAYS UNDERVALUED 6 CLOS (EXCLUDING THE PINE CLO)  
BY \$12 MILLION.**

50. I independently valued 6 distinct CLO securities, other than the Pine CLO, which is discussed on pp. 19, below. My independent valuation of these securities was \$57,834,688 as of September 19, 2008. The results are summarized below in Table 7.

| Table 7: Summary of Valuation Differences for<br>Collateralized Loan Obligations<br>(amounts in millions of dollars) |   |   |   |
|--|---|---|---|
| Number of CUSIPs   | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 6  | \$46  | \$58                                      | \$12  |

51. Barclays did not provide details or analysis to support its modeling of CLO securities.

52. In my independent valuation of the 6 non-Pine CLOs, I applied industry accepted valuation techniques and developed market based inputs for reinvestment rates, loss rates and prepayments.

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six-month period of subprime MBS originations from the second half of 2006 through the first half of 2007. Each ABX.HE index consists of six tranches corresponding to different ratings and positions in the capital structure. ABX.HE has become a benchmark for the performance of subprime RMBS. Its liquidity and standardization allows investors to accurately gauge market sentiment around the asset-class, and to take short or long positions accordingly.”

<sup>25</sup> See Appendix IV.

53. These inputs were then loaded into the Intex cash flow model. I discounted these cash flows based on a discount rate<sup>26</sup> determined from broker/dealer research as of September 19, 2008 based on each CLOs credit rating and capital structure. I then applied an additional liquidity discount to derive my final CLO values.

- 1) **Barclays' values as of September 19, 2008, were very similar to the values that I calculated; however, Barclays failed to demonstrate any basis or analytical justification for taking a 21% discount to arrive at their exit value.**

E. BARCLAYS UNDERVALUED THE PINE CCS CLO BY \$389 MILLION.

54. Barclays misunderstood the structure of and materially undervalued the Pine<sup>27</sup> CCS CLO ("Pine") by \$388.7 million. The value of the Class A-1 tranche of Pine that I valued independently was \$817,297,291 as of September 19, 2008. The results are summarized below in Table 8.

| Table 8: Summary of Valuation Differences for<br>the Pine CLO<br>(amounts in millions of dollars) |   |   |   |
|---|---|---|---|
| Number of CUSIPs  | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 1   | \$429   | \$817                                     | \$389   |

- 1) **Barclays materially misunderstood the structure of Pine, apparently concluding that Pine had the typical structure of a "revolver" CLO.**

55. Barclays' assumption that the unfunded obligations accrue to the senior tranche was erroneous. More typically with CLOs, but not in the case of Pine, when an underlying borrower requests an additional draw on its credit line, the holder of the

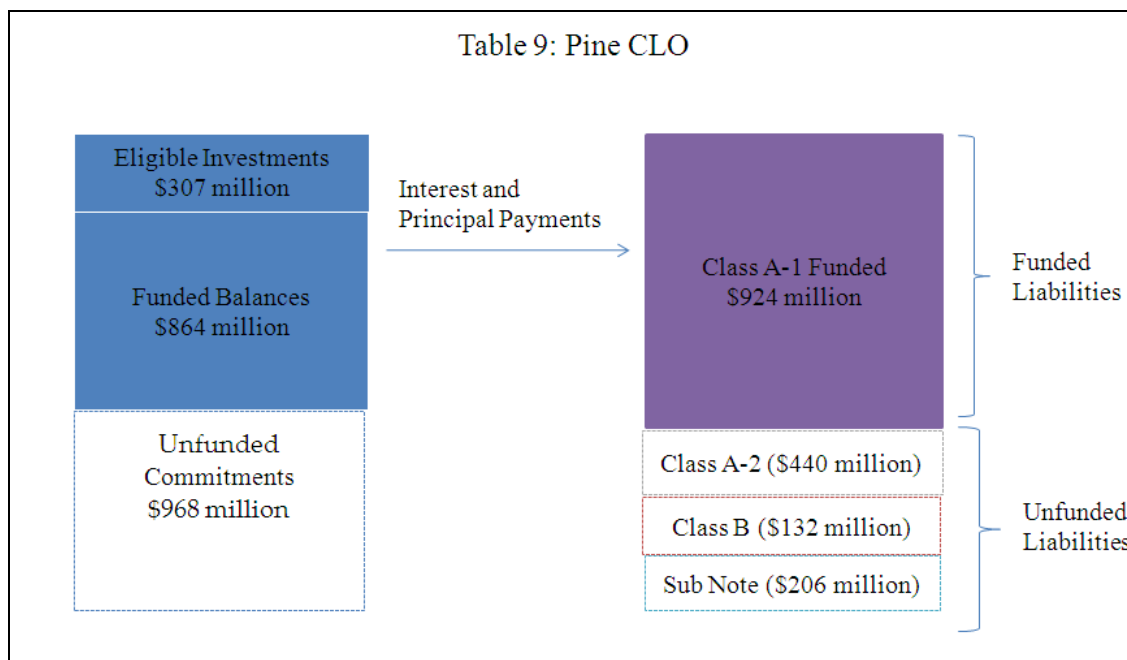
<sup>26</sup> DM (discount margin).

<sup>27</sup> Pine is a collateralized loan obligation backed by revolving lines of credit to 55 corporations from different industry sectors. The loans were originated by Lehman who then established a Trust to issue the CLO. Only the senior Class A-1 tranche was acquired by Barclays as a result of the Acquisition. All of the junior tranches continue to be held by Lehman.



senior tranche is usually responsible for providing the additional funds. However, Pine had an “inverted” structure—i.e., any additional funding came from the holder(s) of the junior tranche, which in this case was a bankrupt entity as of the closing date.

56. At the time that Barclays acquired the Class A-1 tranche, information in Barclays’ possession indicated that Pine had \$307 million in cash, \$697 million in funded loans, and another \$1,140 million in unfunded commitments, i.e., the additional funding required if borrowers went to their full credit limits.<sup>28</sup> The Class A-1 tranche had an initial notional value of \$1,025 million, representing the initial funding of the CLO. The Pine structure is pictured in Table 9 below.



<sup>28</sup> Information available from the Trustee for the Pine CLO on September 19, 2008, shows that the CLO has cash of \$307 million, funded loans of \$864 million, and unfunded commitments of \$968 million. Included in the 307 million of cash is the variable funding account of approximately \$265 million. I have reviewed several trustee reports for the months before and after September 2008 and have been unable to find the source of Barclays amounts reflected in this paragraph.

2) **In deriving its valuation, Barclays failed to recognize the inverted structure of the CLO and its own senior position within that structure.**

57. Barclays itself failed to recognize that in the Pine structure, Barclays' senior Class A-1 position was fully funded and not responsible for any additional cash contributions that could arise from additional funding requests from the underlying borrowers.

58. Instead, Barclays incorrectly assumed a 70% probability that Barclays, as the holder of the Class A-1 tranche, would be obligated to fund the entire amount of the remaining balance available to be drawn upon by the underlying borrowers. Barclays also failed to recognize that the deal documents provided that Lehman, a bankrupt entity, would be responsible for providing any additional funding.

59. Barclays incorrectly valued cash and loans totaling \$1,064 million at \$428.6 million (or at a price of 40.3 cents on the dollar). Barclays, as the holder of the class A-1 tranche, would have first claim on the assets of the CLO, which according to Barclays, included \$367 million of cash investments and \$697 million of funded loans, totaling to over \$1 billion.

60. Had Barclays properly recognized the structure of Pine, and left all of their other valuation assumptions, probabilities and scenarios the same, Barclays' valuation would have been significantly higher. Correcting Barclays' analysis only for the fact that its A-1 tranche is fully funded and completely protected from any funding risk, Barclays' model would have valued Pine at \$883 million.

3) **Barclays inappropriately applied a 20% "participation" discount when valuing the underlying collateral.**

61. Given that the collateral is owned by the CLO trust and not Lehman, the security interest in the loans is not at risk. I have researched this issue and have found no

instance where a master participation agreement in a CLO was not enforced in a bankruptcy.

62. The security Barclays received is the highest and only funded tranche of the CLO. Since Barclays is in the first loss position and has no additional funding liabilities, any hypothetical funding by subordinate tranches would accrue to Barclays benefit. As a result, Barclays is not subject to the funding risks that would convert additional capital in the form of cash advanced to a borrower to funds worth 80 cents, or less, on the dollar. This risk belongs solely to the subordinate tranches.

**4) Professor Pfleiderer performed little to no due diligence when reviewing Barclays' valuation of Pine.**

63. Professor Pfleiderer and his team, or those under his direction, failed to consider important variables of the Pine deal that are integral to valuation of such securities. Aside from an "extensive search on -- on Google,"<sup>29</sup> Professor Pfleiderer, or those working at his direction, apparently did not review offering documents, trustee remittance reports, or any other relevant deal documents.

64. Appendix IV to Professor Pfleiderer's report incorrectly attempts to support Barclays' value for Pine. One comment in Professor Pfleiderer's report focuses on the alleged credit quality and concentration risks of the underlying portfolio of loans.<sup>30</sup> In reviewing LoanX,<sup>31</sup> I observed that on September 19, 2008, 20 of the 55 underlying loans making up approximately 50% of the value of the underlying collateral reflected a weighted average price of 90.2. Both Barclays internal valuation memo prepared by

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<sup>29</sup> Professor Pfleiderer Deposition, page 219.

<sup>30</sup> Expert Report of Professor Pfleiderer, Appendix Four, Section 8, P. 116.

<sup>31</sup> LoanX is provided by Markit. Markit is the leading provider of independent loan market data and loan portfolio management software and is currently used by over 400 financial institutions to manage over \$1 trillion in assets.

Barclays' Product Control Group and the Pfleiderer Report ignore readily available market data for the underlying loans and fail to properly interpret relevant Trustee reports and the September 16, 2008 S&P downgrade.<sup>32</sup>

65. The Pfleiderer Report provided no relevant analysis of any kind and simply accepted the material errors in Barclays' exit values.

F. BARCLAYS UNDERVALUED 30 CDOS AND CMBS BY \$22 MILLION.

66. I independently valued 30 CDO and CMBS. My independent valuation of those securities was \$213,394,108 as of September 19, 2008. The results are summarized in Table 10, below.

| Table 10: Summary of Valuation Differences for Collateralized Debt Obligations and Commercial Mortgage-Backed Securities<br>(amounts in millions of dollars) |   |   |   |
|--|---|---|---|
| Number of CUSIPs   | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 30   | \$192   | \$213                                     | \$22  |

67. CDO valuations were conducted using market indices and market research based on the Intex cash flow modeling platform. These market based inputs included both collateral and cash flow timing and discount rates. The collateral inputs and discount rates were input into the Intex cash flow model to arrive at a price; an additional liquidity discount was then applied to derive my final CDO values.

<sup>32</sup> S&P's downgrade of Barclays' A-1 tranche was purely technical and due to Lehman's bankruptcy and is not related to the value or performance of the underlying collateral. The A-1 tranche receives all of the cash flow from the underlying loans post-Lehman bankruptcy regardless of the credit downgrade. As noted above, the underlying loans were reflected slightly above 90 in the market on September 19, 2008.

68. I independently valued CMBS using market research to determine the appropriate Constant Default Rate (“CDR”), severity rate, and prepayment rate of the underlying commercial mortgages. Each CMBS was then categorized by rating, seniority, and security type. Using published research, a discount rate was determined for each category and assigned to the CMBS. The collateral inputs and discount rate were input into the Intex cash flow model to arrive at a price; an additional liquidity discount was applied to derive my final CMBS values.

G. BARCLAYS UNDERVALUED 6,035 OTHER CUSIPS BY OVER \$400 MILLION.

69. As summarized in Table 11 below, Barclays undervalued 6,035 securities by \$419 million.

| Table 11: Summary of Valuation Differences for<br>for Third Party Valuations<br>(amounts in millions of dollars) |   |   |   |
|--|---|---|---|
| Number of CUSIPs   | Barclays' Opening<br>Balance Sheet<br>Valuation | 9/19/2008<br>Valuation<br>(at Exit Marks) | Valuation Difference<br>(Barclays'<br>Undervaluation) |
| 6,035  | \$10,757  | \$11,176                                  | \$419   |

70. For these securities, including duplicates, I extracted prices from multiple sources: Bloomberg (“BVal” 2,933 CUSIPs; “BGN” 3,059 CUSIPs), Capital IQ (1,005 CUSIPs), FactSet (863 CUSIPs), and Interactive Data (749 CUSIPs). The total count of CUSIPs with at least one third party price was 4,608 (76.4%). No prices were available for 1,427 securities (23.6%). The gathered prices represented closing or bid prices on September 19, 2008, and were treated as midpoint prices for purposes of this analysis. For 31

CUSIPs, the prices were thrown out as inconsistent with the underlying security (credit, scaling issues, etc.).<sup>33</sup>

71. For the remaining 4,577 securities with prices, an average price was then computed by CUSIP.<sup>34</sup> The average prices generated were then screened for compatibility with BoNY and Barclays prices (i.e., scaling issues, outlier observations, etc.). To facilitate this, all 6,035 securities in the third party universe were classified into 8 categories (including Other/Unknown) across the various groups (Rates, PMTG, Corps, etc.). When third party prices were available, percentage differences were calculated from both BoNY and Barclays' prices in each of the 8 categories. Where price percentage differences were outside two standard deviations from both BoNY and Barclays, the third party prices were discarded as outside of range. An additional 62 prices were thus discarded, leaving a total of 4,515 securities for which third party pricing was used.

72. To facilitate the application of liquidity discounts, sub-categories were then created in the Agency RMBS section. Liquidity discounts that were derived through empirical research were then applied to the average prices by asset sub-category.

Agency debentures were separated into maturity buckets before liquidity discounts were

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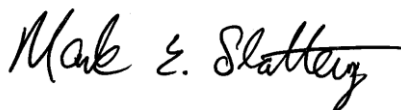
<sup>33</sup> Interactive prices are excluded on 6 CUSIPs (31396X6J8, 31397T4K5, 3837H13L3, 50177AAP4, 86361JAE0, and 94983KAJ8) based on scaling issues on notional IO products. Interactive price for CUSIP 31395WA31 is excluded due to incompatibility with inverse floater pricing. For 24 CUSIPs of Lehman structured notes (5249083B4, 5249083H1, 5249087D6, 5249087K0, 524908L73, 524908MB3, 524908MG2, 524908N30, 524908UK4, 524935BE2, 524935BG7, 524935CX9, 524935DK6, 52517P4M0, 52517P6Z9, 5252M0AW7, 5252M0BG1, 5252M0BQ9, 5252M0CJ4, 5252M0CX3, 5252M0DT1, 5252M0FB8, 5252M0FR3, 5252M0FV4), prices from FactSet and Capital IQ are excluded due to inconsistency with prices observed for Lehman underlying credit exposure.

<sup>34</sup> For 13 CUSIPs (912795K75, 912795K59, 912795J77, 912795S28, 313384J83, 313588L86, 313588M77, 313384M30, 313384Q44, 313384Q77, 313589CF8, 313589CN1, and 912795J28), Bloomberg data pulled was expressed in terms of yields and conversion was made to prices. For 3 CUSIPs, (76116EFH8, 76116EBZ2, and 31771JKU3) Bloomberg data pulled was inconsistent with observed prices and thus discarded. Prices from FactSet and/or Capital IQ were available and used on these 16 CUSIPs.

applied. For corporate debentures, emerging markets, corporate asset-backed securities, private label mortgage securities and municipals, Barclays' discounts were used.

73. For securities where no third-party pricing information was available, I applied liquidity discounts (following the aforementioned logic) to the BoNY prices as of September 19, 2008.

Submitted by

A handwritten signature in black ink that reads "Mark E. Slattery". The signature is written in a cursive, flowing style with a long horizontal stroke at the end.

Mark E. Slattery, CFA

March 15, 2010

## **Appendix I**

### **Curriculum Vitae**

#### **MARK E. SLATTERY, CFA**

30 South Wacker Drive, Chicago IL 60606

Phone: (312) 251-5200 Email: Mark.Slattery@naviganteconomics.com

### **EXPERIENCE**

#### **NAVIGANT ECONOMICS**

**Chicago, IL**

##### **Independent Consultant**

**January 2010 – Current**

- Manage a team of professionals dedicated to valuing a multi-billion dollar portfolio, consisting of a broad range of securities.
- Lead all aspects of related effort ranging from implementing requisite analytical configuration to writing papers intended to describe model specifications.

#### **FLAGSTAR BANK**

**Troy, MI**

##### **Internal Consultant**

**March 2009 – January 2010**

- Served as an internal asset/liability management consultant; participated in a wide array of projects covering all aspects of the on- and off-balance sheet positions.
- Directed the Bank's market valuation and risk measurement efforts related to its \$52 billion mortgage servicing rights portfolio.
- Developed and maintained an analytical framework designed to capture the structural risks associated with the Bank's consolidated residential mortgage operations.

#### **JMN CONSULTING**

**Chicago, IL**

##### **Senior Consultant**

**October 2006 – November 2008**

- Functioned as the Assistant Portfolio Manager of non-discretionary funds dedicated to the purchase of non-Agency RMBS primarily backed by pay-option adjustable rate mortgages and subprime mortgages.
- Measured market value and related risk metrics for a credit default swap ("CDS") portfolio backed by non-Agency RMBS on a bi-weekly basis.
- Provided monthly fair market valuations and sensitivity profiles for the 2006-1, 2006-2, 2007-1 and 2007-2 ABX Indices.
- Evaluated an extensive portfolio of CDOs on behalf of an investment syndicate.
- Led consulting engagements culminating in physical deliverables written with respect to applicable regulatory guidance.

#### **LASALLE BANK CORPORATION**

**Chicago, IL**

##### **Senior Vice President**

**October 2005 – October 2006**

- Managed a team of professionals dedicated to Asset-Liability research; key initiatives included quantifying the Interest Rate Risk component of the Bank's Economic Capital position and enhancing the Bank's market valuation and risk measurement frameworks.



- Co-chair of the Mortgage Advisory Council, which was dedicated to ensuring that the Bank's mortgage analytical models and processes provided the most accurate estimate of the Bank's exposure to mortgage assets and related lines of business.
- Participated as a voting member on two of the Bank's senior committees: the Mortgage Asset-Liability Committee and the Investment Portfolio Committee.
- Ran the Bank's Asset/Liability Consulting Services practice, which was dedicated to enhancing the balance sheet management policies and practices of financial institutions of varying asset size and business focus.

**First Vice President**

**February 2003 – September 2005**

**SLATTERY ENTERPRISES**

**Orland Park, IL**

**Principal**

**January 2002 – January 2003**

- Operated an organization dedicated to the financial services industry, specializing in the disciplines of Asset-Liability Management and Risk Management.
- Acted as Project Manager responsible for the implementation of a commercially available Asset-Liability Management application for a newly formed financial services holding company of a major international corporation.
- Designed a framework to integrate and support analytical routines ranging from the basic (e.g., contractual cash flow generation) to the advanced (e.g., capital optimization).

**QUANTITATIVE RISK MANAGEMENT**

**Chicago, IL**

**Vice President, Consultant**

**February 1994 – December 2001**

- Managed a team of Subject Matter Consultants dedicated to the implementation and on-going support of QRM Asset-Liability clients.
- Provided subject matter consulting on issues related to the QRM Asset-Liability System and the QRM Mortgage Servicing Evaluation System.
  - Modeled financial instruments including MBS, CMOs, callable/puttable notes/bonds, leases, indeterminate deposits, mortgage servicing, cap/floor agreements, swaps, swaptions, futures, futures options.
  - Quantified risk profiles of static balance sheets using subjective rate and volatility shock analysis and objective Monte Carlo VaR Analysis.
  - Derived earnings sensitivity measures using deterministic as well as stochastic analysis; analyzed portfolios using total return analysis.
- Assisted clients to formulate and execute hedging strategies.
- Wrote and presented materials at industry conferences (Bank Administration Institute), QRM user conferences, and QRM client training sessions.

**COOPERS & LYBRAND**

**Chicago, IL**

**Senior Associate**

**May 1992 – January 1994**

**FEDERAL HOME LOAN BANK OF CHICAGO**

**Chicago, IL**

**Senior Financial Analyst**

**January 1990 – April 1992**

**Federal Thrift Regulator**

**August 1986 – December 1989**

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**EDUCATION**

**KELLOGG SCHOOL OF MANAGEMENT,  
NORTHWESTERN UNIVERSITY  
MBA, Finance/Accounting**

**Evanston, IL  
June 1992**

**NORTHWESTERN UNIVERSITY  
BA, Economics**

**Evanston, IL  
June 1986**

**CERTIFICATION  
Chartered Financial Analyst**

**June 1992**

## Appendix II

### Documents Relied Upon

#### Documents in the Record

##### Depositions

| Deponents      | Date      |
|----------------|-----------|
| Paul Pfeiderer | 2/23/2010 |

##### Deposition Exhibits

| Exhibit   | Beginning Bates     | Ending Bates        |
|---|---------------------|---------------------|
| 86B - Initial Inventory, Schedule A and B Assets  | BCI-EX-00099519     |                     |
| 87B - JPM Inventory, Annex A Assets   | BCI-EX-00108700     |                     |
| 495 - Debtor's Motion for an Order, Pursuant to Fed. R. Civ. P. 60 and Fed. R. Bankr. P. 9024, Modifying the September 20, 2008 Sale Order and Granting Other Relief (Bankr. S.D. N.Y. Sept. 15, 2009). |                     |                     |
| 641A - Email from Sean Teague to Tal Litvin   | BCI-EX-(S)-00213990 | BCI-EX-(S)-00213996 |

##### Other Documents

| Description  | Beginning Bates                   | Ending Bates |
|--|-----------------------------------|--------------|
| Initial Inventory, Schedule A and Schedule B Assets  | BCI-EX-00099519                   |              |
| Debtors' Adversary Complaint 11-16-2009  |                                   |              |
| Expert Report of John J. Schneider 3-15-2010   |                                   |              |
| Expert Report of Mark Zmijewski 3-15-2010  |                                   |              |
| The Trustee's Motion for Relief Pursuant to the Sale Orders or, Alternatively, for Certain Limited Relief Under Rule 60(b), (Bankr. S.D. N.Y. Sept. 15, 2009).   |                                   |              |
| Motion of Official Committee of Unsecured Creditors of Lehman Brothers Holdings Inc., et al., Pursuant to 11 U.S.C. § 105(a), Fed. R. Civ. P. 60(b), and Fed. R. Bankr. P. 9024, for Relief from Order Under 11 U.S.C. §§ 105(a), 363, and 365 and Federal Rules of Bankruptcy Procedure 2002, 6004 and 6006 Authorizing and Approving (A) Sale of Purchased Assets Free and Clear of Liens and Other Interests and (B) Assumption and Assignment of Executory Contracts and Unexpired Leases, Dated September 20, 2008 (and Related SIPA Sale Order) and Joinder in Debtors' and SIPA Trustee's Motions for an Order Under Rule 60(b) to Modify Sale Order. In re Lehman Brothers Holdings Inc., et al., Debtors Case No. 08-13555 (JMP) (Bankr. S.D. N.Y. Sept. 15, 2009). |                                   |              |
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| Review of Barclays JP Morgan Portfolio Price Testing Methodology and Framework   | PwC-BarCapWP_00023595             |              |
| Review of Barclays Capital Price Testing Methodology and Framework for Lehman  |                                   |              |
| Acquired as of September 19, 2008  | PwC-BarCapWP_00022935             |              |
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| Bid-Offer Reserve Agency CMOs  | PwC-BarCapWP_00023327             |              |

#### Documents that are Publicly Available

Bloomberg.com  
WallStreetJournal.com

#### Other Documents Not Cited in the Record and Not Publicly Available

Bloomberg LP Data  
Capital IQ Data  
Interactive Data  
ADCo  
Polypaths Fixed Income System  
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Barclays Capital Live  
Markit Group Limited  
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### **Appendix III**

#### **Description of Dynamic Pricing of Agency RMBS and Related Model Components**

74. The holder of a mortgage-backed security can be viewed as having a long position in a straight bond and a short position in an American call option. In this case, the American call option is the prepayment option embedded in the security that gives the homeowner the right to prepay all (prepayment) or some of their principal (curtailment) at any time prior to maturity.

75. Mortgage cash flows include scheduled and unscheduled principal payments (prepayments) and interest. Prepayments depend on the path of future interest rates and non-rate related factors. Path-dependent options, such as the prepayment option embedded in mortgage securities, are typically valued using a dynamic pricing approach via Monte Carlo simulation.

76. Mortgage pass-throughs and sequential CMO tranches are relatively straightforward to value within the Option Adjusted Spread (“OAS”) framework. IOs are securities that only pay investors interest cash flows. On the other hand, POs are securities that only pay investors principal cash flows. IOs and POs are labeled as either “Trust” securities if they are stripped from a mortgage pass-through or “Structured” securities if they are tranches within a CMO.

77. There are two general approaches that can be used to value MBS: static pricing and dynamic pricing. Static pricing assumes one future path of rates and one corresponding set of cash flows. The single set of cash flows is discounted using the London Interbank Offered Rate (“LIBOR”) or U.S. Treasury rates plus a static spread.

A key disadvantage arising from this method is that the actual spread or yield earned by the investor can vary significantly due to future rate and cash flow uncertainty.

78. In the dynamic pricing framework, a large number of random rate paths and corresponding mortgage cash flows are generated. Each set of cash flows are discounted back to the present using underlying LIBOR rates. The model price is the average of the present value ("PV") of cash flows calculated for each random rate path. In order to equate the MBS price generated by the model (model price) to the MBS price observed in the marketplace (market price), a single interest rate spread is added to LIBOR. This spread is known as the OAS.

79. I used a dynamic pricing framework, i.e., an OAS approach, to value Agency MBS. The valuation framework is comprised of three major components: 1) the term structure model; 2) the current coupon model; 3) and the prepayment model. In the case of CMOs and structured product, a deal cash flow model is also utilized. A description of each component of the valuation framework follows.

#### *Term Structure Model*

80. An OAS approach to pricing MBS requires the use of a term structure model. A term structure model describes the progression of interest rates through time. The starting point for a term structure model is the initial term structure of interest rates, i.e., various maturity term points and zero coupon bond rates. The term structure is based on U.S. Treasury or LIBOR/Swap rates.

81. The LIBOR market model, also known as the BGM Model (Brace Gatarek Musiela Model), is a financial model of interest rates. The quantities that are modeled

are a set of forward rates that have the advantage of being directly observable in the market, with volatilities that are naturally linked to traded contracts.

#### *Current Coupon Model*

82. A term structure model is used to create a tree of LIBOR short rates or forward rate paths. However, mortgage prepayments are primarily driven by movements in the primary market mortgage rate, i.e., the current coupon rate. Therefore, a current coupon model is needed to derive prospective mortgage rates. The 30 year mortgage rate is customarily expressed as a premium over the 10 year U.S. Treasury or Swap/LIBOR rate. The ten year underlying rate can be derived from the term structure model.

83. One approach to modeling the mortgage rate is to assign a constant spread, i.e., interest rate premium, to the underlying rate or weighted average rate. More advanced modeling approaches take into account that the spread varies over time and/or as a function of rate volatility. Theoretically, the spread varies directly with the level of volatility, due to the fact that a portion of the spread reflects the cost of the prepayment option. Assuming a constant OAS, higher volatility increases the cost of the option and the mortgage rate. I used the OAS current coupon model, which is the more appropriate approach since it allows the spread to vary based on volatility.

#### *Prepayment Model*

84. The purpose of a prepayment model is to quantify prospective mortgage prepayments or curtailments. Prepayments can be voluntary or involuntary, as in the case of default. Prepayment models are a critical component of the OAS valuation

framework. Prepayment models must be able to capture the variation of prepayments on a given mortgage pool in different interest rate environments.

85. There are two general types of prepayment models: 1) Market-implied and 2) Econometric. The market-implied prepayment model is derived by holding the OAS constant and backing into the prepayment model that results in the observed MBS prices. The econometric prepayment model is derived by applying statistical techniques, e.g., multiple regression analysis, to actual historical prepayments (dependent variable) and known predictor variables. I used both a market implied and an econometric prepayment model in the MBS valuation process.

86. The econometric prepayment model I used for valuation purposes was the ADCo Model. Based on my own experience, I am aware of the substantial extent to which the ADCo model is used by market participants. The ADCo Model was developed by Andrew Davidson & Company, a highly-regarded firm that provides mortgage analytics solutions to the financial services industry.

#### *Deal Cash Flow Model*

87. The modeling and valuation of CMOs require the use of a deal cash flow model. The deal cash flow model includes the rules for how the mortgage principal and interest in a CMO will be disbursed to holders of various tranches. Each CMO is unique and may include numerous tranches with different levels of prepayment sensitivity. To value CMO tranches, I used the market standard Intex model as the Deal Cash Flow Model. Based on my own experience, I am aware of the substantial extent to which the Intex model is used by market participants.

## **Appendix IV**

### **Valuation of Credit Sensitive Non-Agency RMBS**

88. The first step in my valuation process was to quantify the timing and magnitude of prospective losses, which was done by first classifying the underlying loans in the pool according to current delinquency status, (e.g., current, 30 days past due, 60 days past due, etc.), and then applying “roll rates” to quantify the timing and number of future defaults, measured in dollar volume.

89. Next, I used average loss severity rates based on the underlying collateral’s vintage, type, and payment characteristics [i.e., fixed vs. adjustable rate mortgages (“ARMs”)] to translate defaults into future losses. Roll rates and loss severity rates were obtained from broker/dealer research reports which were available on September 19, 2008. After I derived a loss curve and deal-specific prepayment rates, I calculated each security’s future cash flows using the Intex platform. Intex is widely accepted in the industry and commonly used for the valuation of non-Agency RMBS.

90. The next step in my valuation process was to derive an appropriate discount rate to apply to the security cash flows. I conducted a separate analysis of the discount rates implied by ABX indices for comparable non-Agency RMBS and used these implied rates to discount the cash flows in the Intex model. To be conservative, I applied an additional liquidity discount to derive my final values.